



October 3, 1997

486.0103.003

U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Attention: Mr. Dick Vesperman

**TRANSMITTAL
PRELIMINARY DESIGN SUBMITTAL
FORMER UNITED HECKATHORN FACILITY
RICHMOND, CALIFORNIA**

Dear Mr. Vesperman:

Enclosed please find two copies of the *Preliminary Design Submittal, Upland Cap Remedial Design and Remedial Action* for the Former United Heckathorn NPL site located at 402 Wright Avenue, Richmond, California (Plate 1). This report has been prepared by PES Environmental, Inc. (PES) on behalf of Levin-Richmond Terminal Corporation (LRTC).

As specified in the U.S. Environmental Protection Agency (EPA) Consent Decree, dated April 22, 1996, this Preliminary Design Submittal contains the following: (1) design criteria, (2) results of additional field sampling and pre-design work, (3) project delivery strategy, (4) preliminary plans, drawings, and sketches, (5) required specifications in outline form, and (6) preliminary construction schedule. These submittal requirements are addressed below.

DESIGN CRITERIA

As described in the PES report *Final Remedial Design Workplan*, dated September 17, 1997, there are three key factors that affect the design criteria: site grading requirements, site use, and drainage. The design criteria that properly support the interrelationship of these three factors are listed below:

- The cap must prevent erosion of the underlying contaminated soil.
- LRTC operational needs require a stable working surface, similar to the concrete pavement presently in use on the south portion of the site.

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- Elevations of the current rail lines and smooth pavement transitions over the lines must be maintained.
- The surface must be graded to minimize ponding and promote surface flow towards defined inlet/area drains.
- Proposed drainage improvements are designed for the City of Richmond standard 10-year storm event and comply with applicable storm water pollution prevention requirements.

RESULTS OF ADDITIONAL SAMPLING

To assist with preliminary design requirements, additional sampling was performed at the site. This sampling was performed to better assess underlying soils for geotechnical/pavement design considerations and to evaluate residual pesticide concentrations in asphalt at the former dewatering pad for off site waste management purposes. The results of these tasks are described below.

Geotechnical Soil Sampling

The purpose of the soil sampling was to provide geotechnical design input data for the concrete cap. Four bulk soil samples were collected from the near surface soils at the locations shown on attached Plate 2. The geotechnical testing consisted of determining "R" values using ASTM D 2844, Cal Test 301. Results are summarized in Table 1 and the laboratory report is presented in Appendix A. The R values ranged from 50 to 79 and are generally equivalent to R value requirements for standard subbase and base rock criteria, respectively.

Asphalt Sampling

Grading requirements at the site indicated the need to trim portions of the asphalt pad used for the sediment dewatering project. Asphalt samples were collected at eight locations (see Plate 2). Samples were collected from within 1 to 2 inches of the surface of the asphalt and submitted for analysis of chlorinated pesticides by EPA Test Method 8080 to American Environmental Network of Pleasant Hill, California. Analytical results are summarized in Table 2; the laboratory analytical report and chain-of-custody form are presented in Appendix B. These results indicate that pesticide concentrations are below the 1 milligram per kilogram (mg/kg) threshold that would classify the asphalt debris as hazardous waste. Therefore, it is anticipated that asphalt debris generated during grading can be managed as non-hazardous construction debris.

PROJECT DELIVERY STRATEGY

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As described in the *Final Remedial Design Work Plan*, dated September 24, 1997, the project schedule allows 30 days for agency review of the preliminary design submittal. A site visit and meeting with other interested agencies to discuss the proposed approach to implementation of the remedy, as outlined in the preliminary design submittal, is planned for the third week of the review period. The schedule for the remaining project deliverables is presented on Table 3.

PRELIMINARY DESIGN

Preliminary plans, drawings, and sketches, prepared by AN West are included as Appendix C. The information presented consists of the following:

- Existing and proposed features and elevations;
- Limits of asphalt pad requiring trimming;
- Proposed drainage swales, drop inlets, catch basins, piping alignment, interceptors and outfall locations;
- Proposed limits of areas proposed for gravel and concrete cap; and
- Proposed cross sections at various locations across the area to be capped.

DESIGN SPECIFICATIONS IN OUTLINE FORM

The design specifications outline, prepared by AN West, is presented in Appendix D. As required by the CD, the complete specification details, along with the draft operations and maintenance plan, will be submitted with the pre-final design package.

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PRELIMINARY CONSTRUCTION SCHEDULE

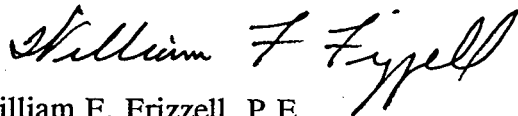
A preliminary construction schedule was previously presented in the *Final Remedial Design Work Plan*, dated September 24, 1997. For completeness, a copy of the schedule is included as Table 3.

Very truly yours,

PES ENVIRONMENTAL, INC.



William W. Mast, R.G.
Senior Engineer



William F. Frizzell, P.E.
Principal Engineer

Attachments: Table 1 - Geotechnical Soil Testing Results
Table 2 - Asphalt Analytical Results
Table 3 - Schedule of Project Deliverables
Plate 1 - Site Location Map
Plate 2 - Site Plan
Appendix A - Geotechnical Soil Testing Laboratory Report
Appendix B - Laboratory Analytical Report and Chain-of-Custody Record
Appendix C - Site Plans
Appendix D - Design Specifications Outline

cc: Stephen A. Cimperman, DTSC
Mike McCoy, LRTC
Keith Howard, Cooper White & Cooper

TABLES

Table 1
Geotechnical Soil Testing Results
Former United Heckathorn Facility
Preliminary Design
Richmond, California

Sampling Location	Sample ID	R-Value
B1	Bulk 1	79
B2	Bulk 2	66
B3	Bulk 3	67
B4	Bulk 4	50

Notes:

Samples collected on July 21, 1997.

Samples analyzed by ASTM D 2844, Cal Test 301.

Table 2
Asphalt Analytical Results
Former United Heckathorn Facility
Preliminary Design
Richmond, California

Sampling Location	4,4'-DDT ($\mu\text{g/kg}$)
AS-1	<600
AS-2	960
AS-3	600
AS-4	<600
AS-5	<600
AS-6	<600
AS-7	<600
AS-8	<600

Notes:

Samples collected on July 21, 1997.

4,4'-DDT = Dichlorodiphenyltrichloroethane.

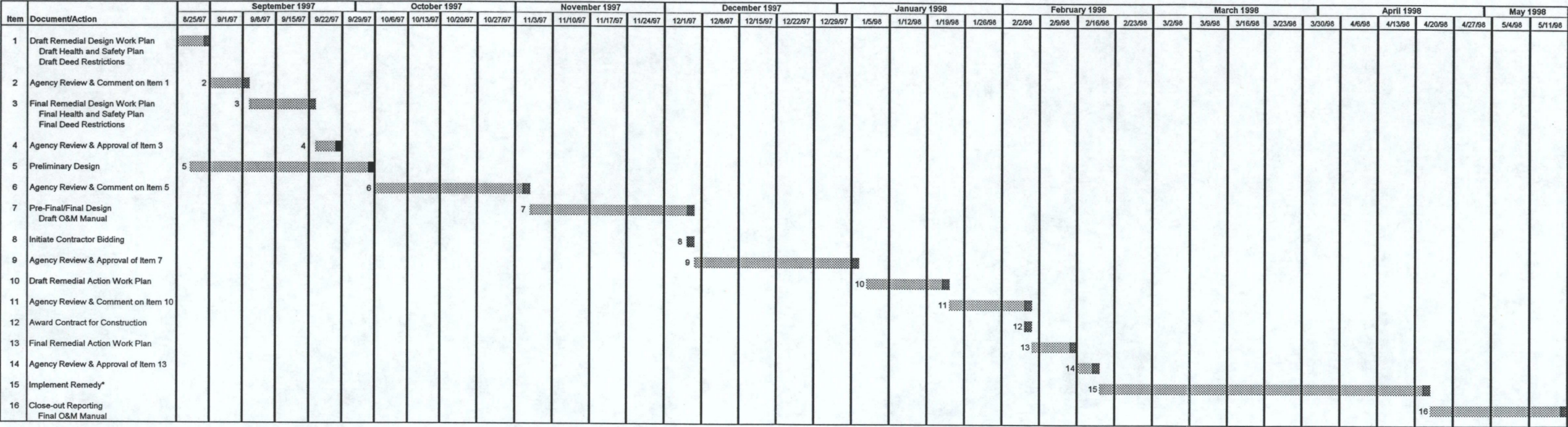
$\mu\text{g/kg}$ = Micrograms per kilogram.

Samples analyzed for chlorinated pesticides by EPA Test Method 8080.

<600 = Not detected at or above the laboratory reporting limit indicated.

Compounds not listed were not detected at or above the laboratory reporting limit (see Appendix B).

Table 3
Schedule of Projects Deliverables for Upland Capping Project
Former United Heckathorn Facility
Preliminary Design
Richmond, California



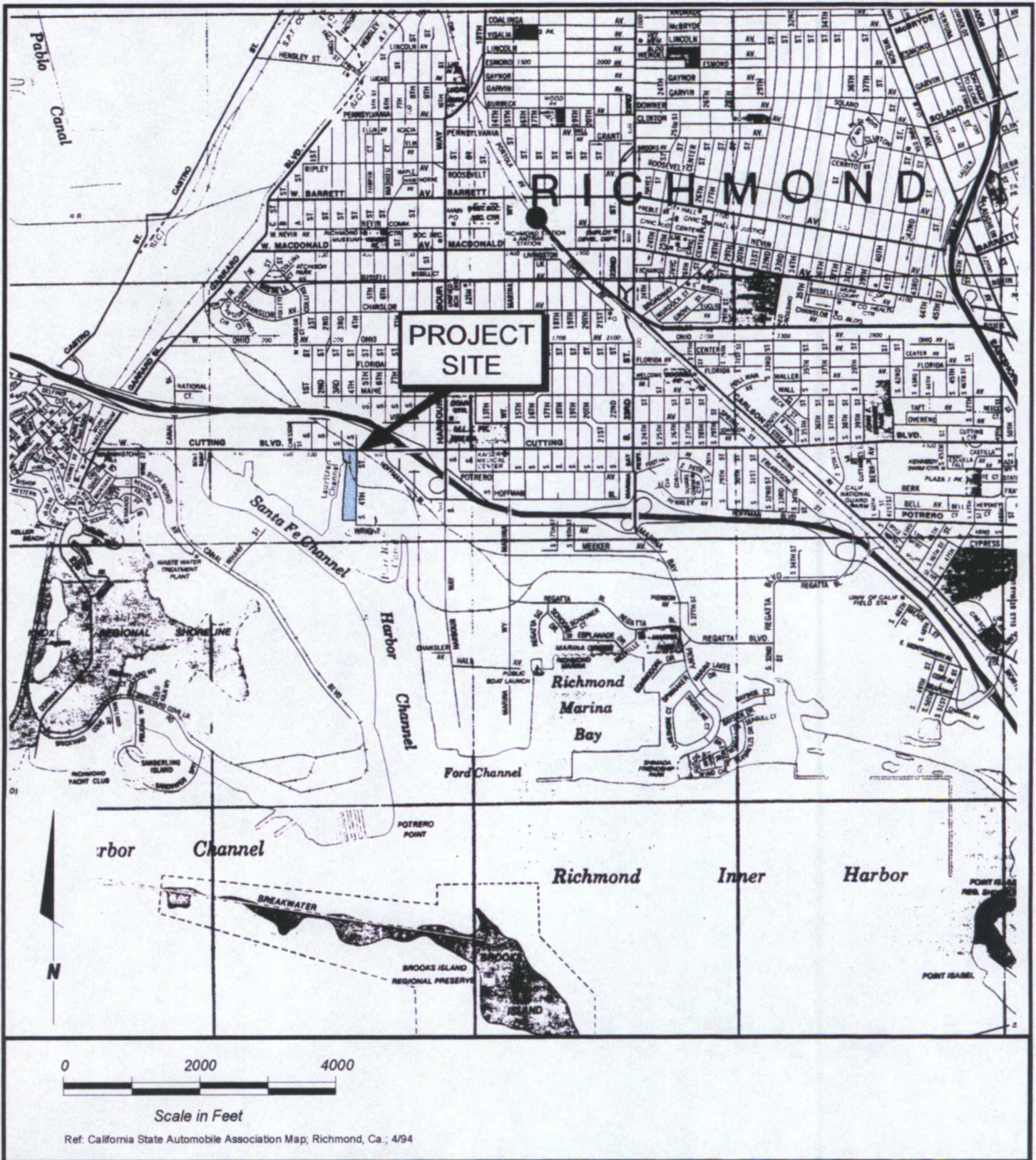
Notes:

Work in Progress

Deliverable or Task Completion

* = The start date of Task 15 will be adjusted as necessary to avoid field activities during the rainy season.

PLATES



PES Environmental, Inc.
Engineering & Environmental Services

Site Location Map
Former United Heckathorn Facility
Preliminary Design
Richmond, California

PLATE

1

486.0103.003

48601_V1.CDR

WAB
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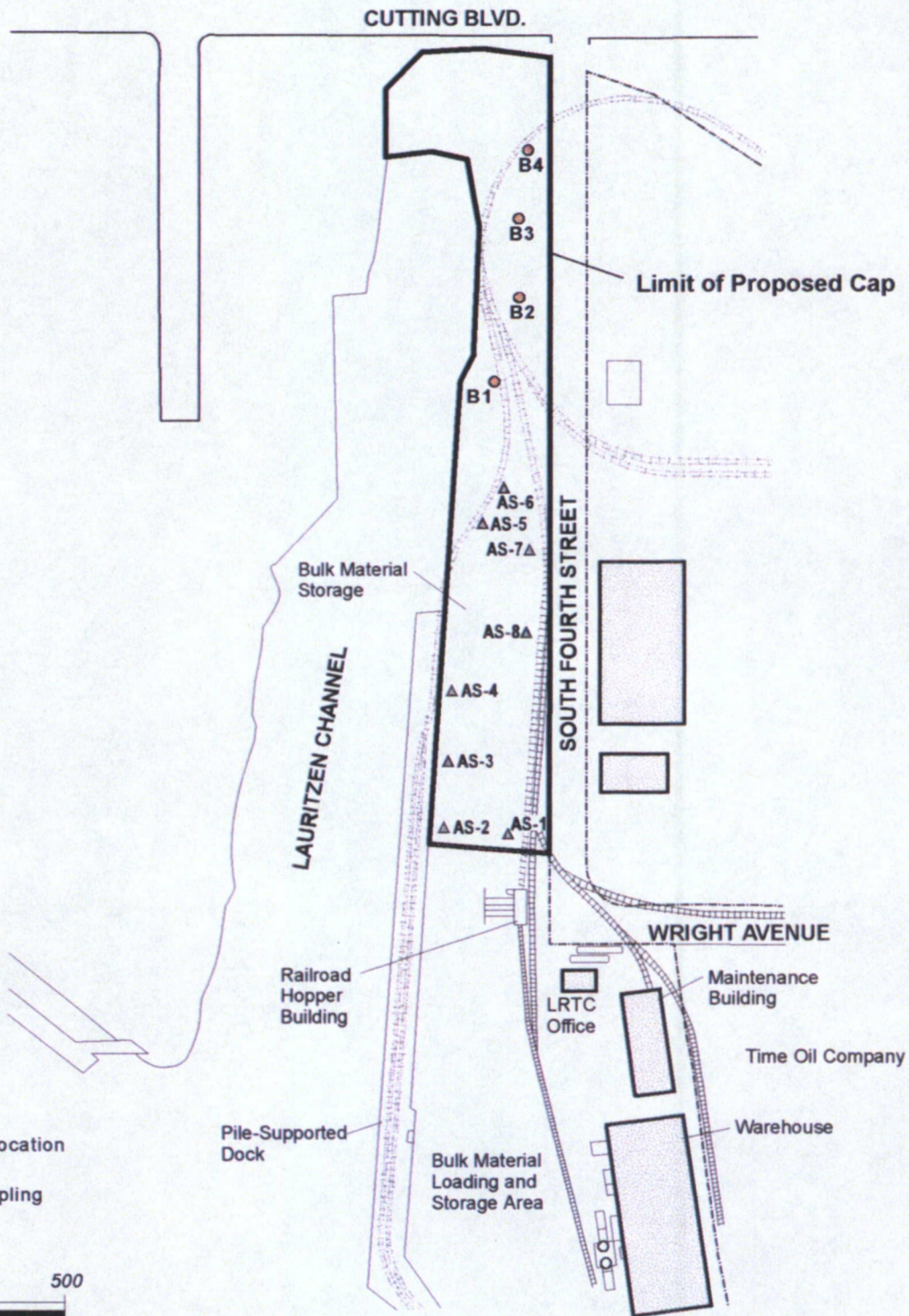
10/97

JOB NUMBER

DRAWING NUMBER

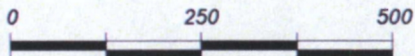
REVIEWED BY

DATE



Explanation

- AS-8 ▲ Asphalt Sampling Location
 B4 ● Bulk Soil Grab Sampling Location



Approximate Scale in Feet



PES Environmental, Inc.
 Engineering & Environmental Services

Site Plan
 Former United Heckathorn Facility
 Preliminary Design
 Richmond, California

PLATE

2

486.0103.003

48601_S3.CDR

WMA
 REVIEWED BY

10/97

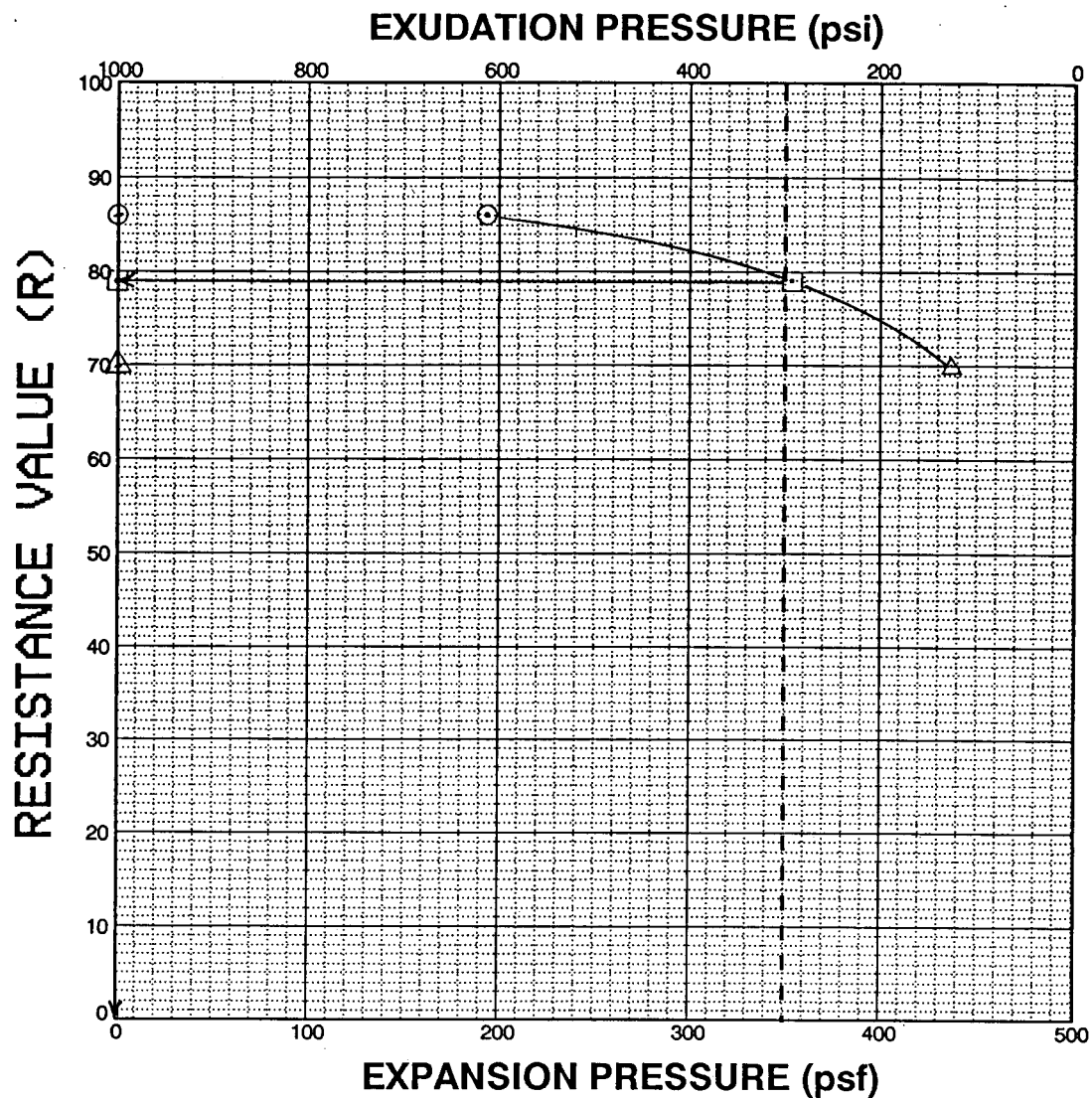
DATE

JOB NUMBER

DRAWING NUMBER

APPENDIX A


**GEOTECHNICAL SOIL TESTING
LABORATORY REPORT**

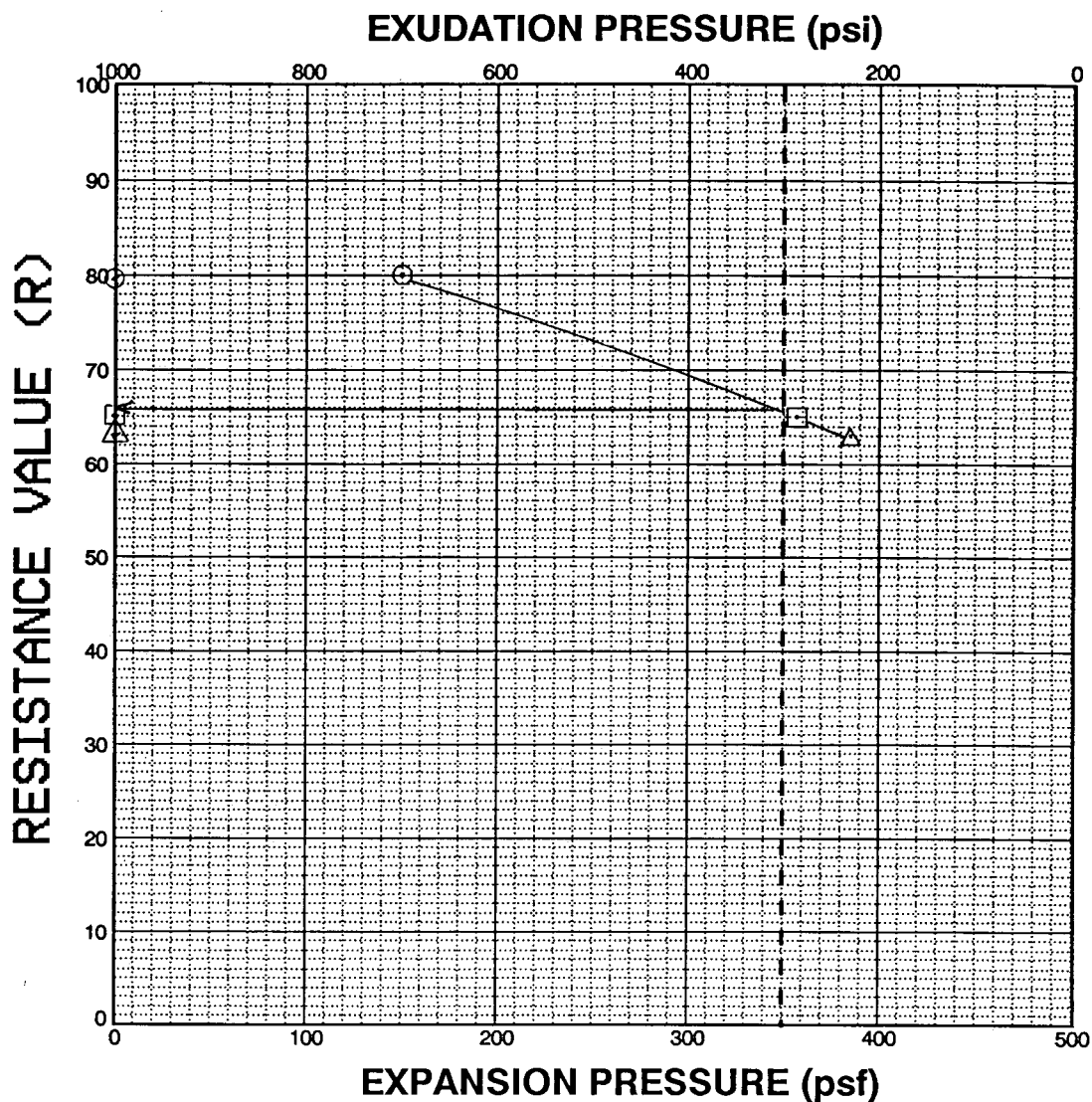


SPECIMEN NO.	⊙	□	△
MOISTURE CONTENT (%)	13.9	14.4	16.8
DRY DENSITY (PCF)	114	113	112
EXUDATION PRESSURE (PSI)	613	294	127
EXPANSION PRESSURE (PSF)	0	0	0
RESISTANCE VALUE (R)	86	79	70

SAMPLE SOURCE	CLASSIFICATION	SAND EQUIVALENT	EXPANSION PRESSURE	R-VALUE
BULK 1 @ 0.00	Grey Sand W/Silt And Gravel (SP-SM)		0	79

ASTM D 2844, Cal Test 301

 KLEINFELDER Geotechnical, Materials and Environmental Engineering		Resistance Value Test Data PES ENVIRONMENTAL, INC. Engineering & Environmental Services Novato, California	PLATE
PROJECT NUMBER	4102	DATE	JUL 1997

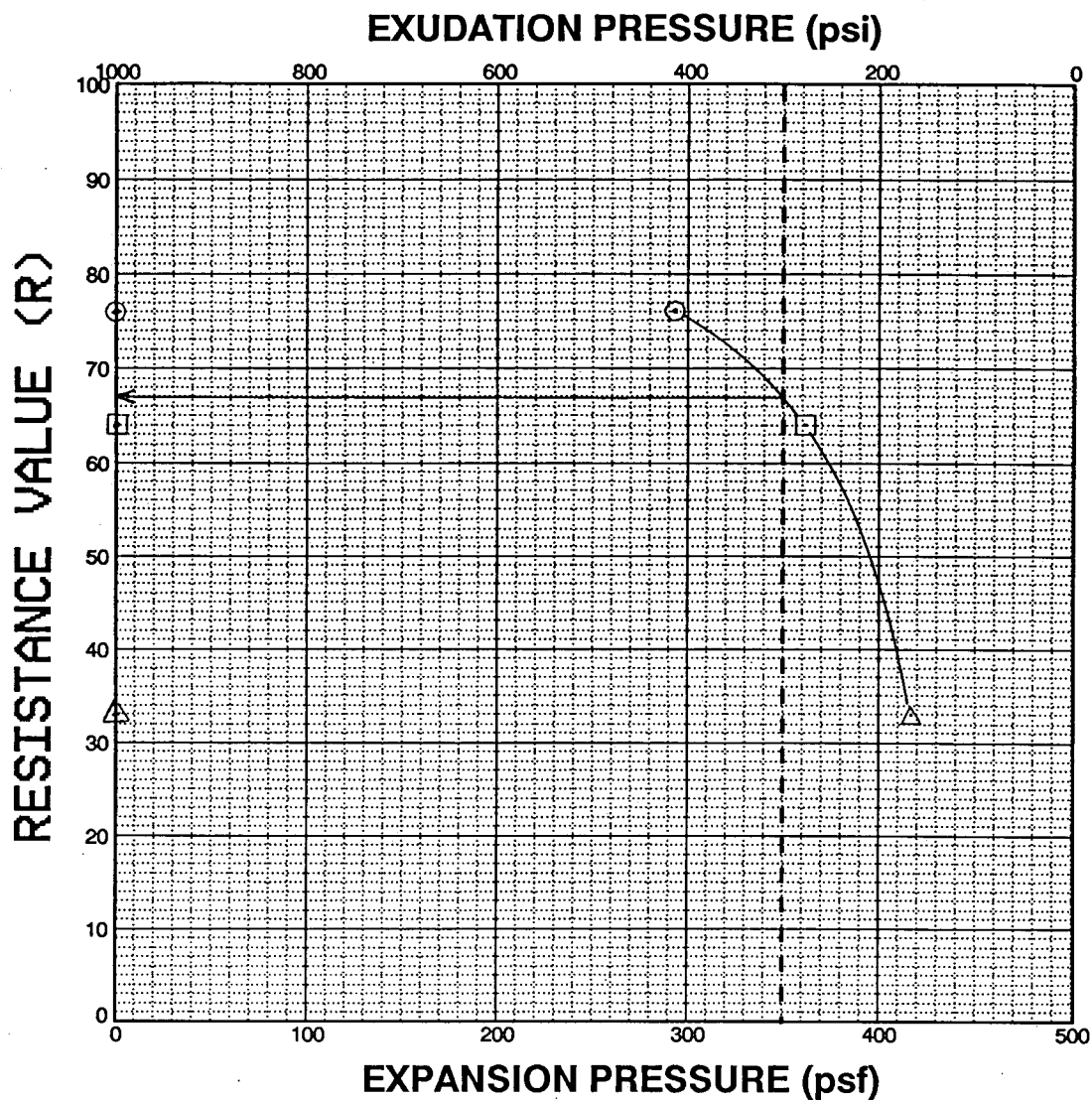


SPECIMEN NO.	⊙	□	△
MOISTURE CONTENT (%)	10.8	11.8	12.3
DRY DENSITY (PCF)	118	119	119
EXUDATION PRESSURE (PSI)	700	287	231
EXPANSION PRESSURE (PSF)	0	0	0
RESISTANCE VALUE (R)	80	65	63

SAMPLE SOURCE	CLASSIFICATION	SAND EQUIVALENT	EXPANSION PRESSURE	R-VALUE
BULK 2 @ 0.00	Reddish Brown Silty Sand W/Gravel (SM)		0	66

ASTM D 2844, Cal Test 301


<p>KLEINFELDER Geotechnical, Materials and Environmental Engineering</p>	<p>Resistance Value Test Data</p> <p>PES ENVIRONMENTAL, INC. Engineering & Environmental Services Novato, California</p>	<p>PLATE</p>
PROJECT NUMBER 4102	DATE JUL 1997	

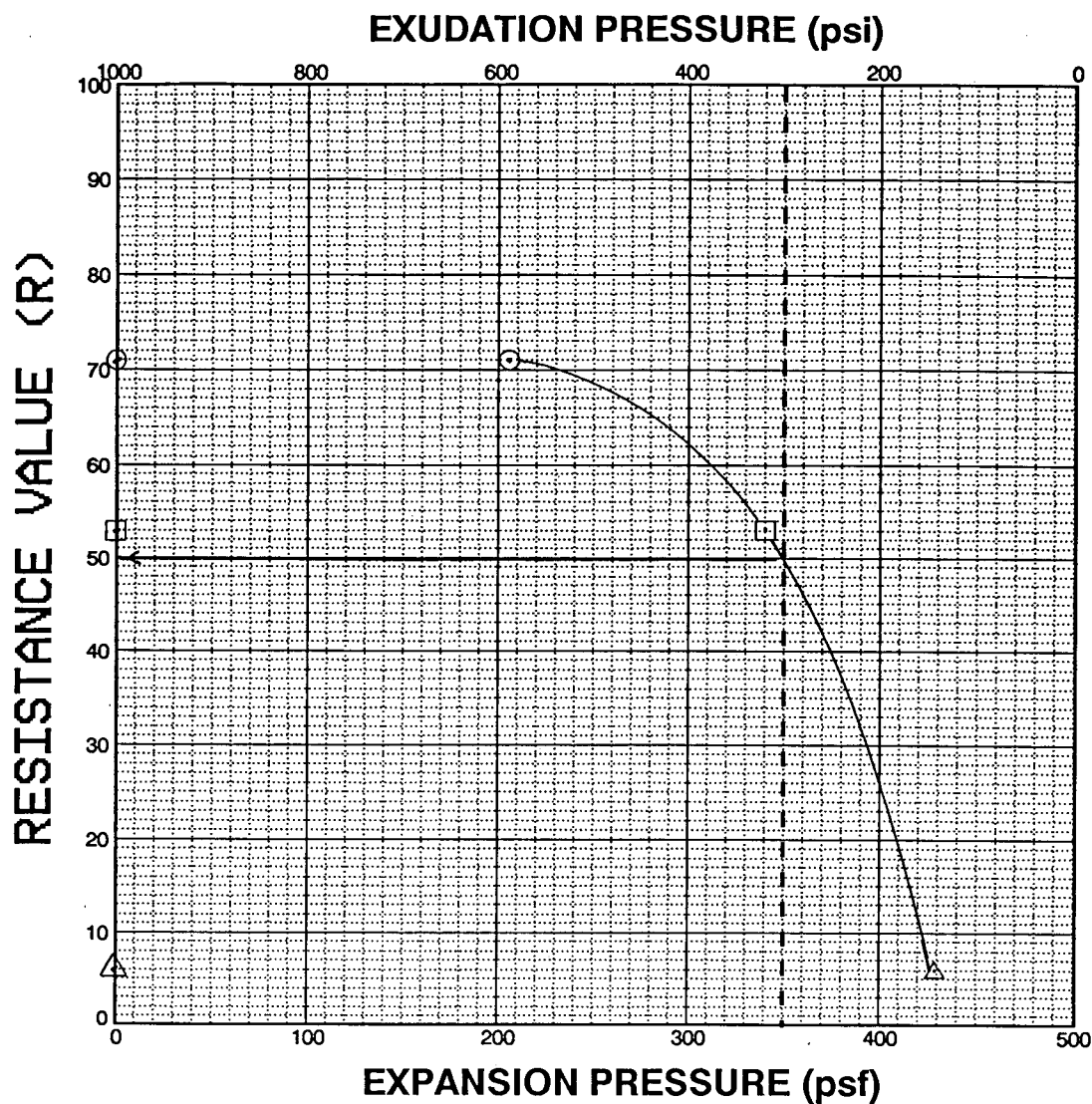


SPECIMEN NO.	⊙	□	△
MOISTURE CONTENT (%)	10.5	10.9	11.9
DRY DENSITY (PCF)	119	119	120
EXUDATION PRESSURE (PSI)	414	278	167
EXPANSION PRESSURE (PSF)	0	0	0
RESISTANCE VALUE (R)	76	64	33

SAMPLE SOURCE	CLASSIFICATION	SAND EQUIVALENT	EXPANSION PRESSURE	R-VALUE
BULK 3 @ 0.00	Reddish Brown Silty Sand W/Gravel (SM)		0	67

ASTM D 2844, Cal Test 301

 KLEINFELDER Geotechnical, Materials and Environmental Engineering		Resistance Value Test Data		PLATE
		PES ENVIRONMENTAL, INC. Engineering & Environmental Services Novato, California		
PROJECT NUMBER 4102		DATE JUL 1997		



SPECIMEN NO.	⊙	□	△
MOISTURE CONTENT (%)	8.0	8.9	10.1
DRY DENSITY (PCF)	132	131	129
EXUDATION PRESSURE (PSI)	589	320	143
EXPANSION PRESSURE (PSF)	0	0	0
RESISTANCE VALUE (R)	71	53	6

SAMPLE SOURCE	CLASSIFICATION	SAND EQUIVALENT	EXPANSION PRESSURE	R-VALUE
BULK 4 @ 0.00	Reddish Brown Silty Sand W/Gravel (SM)		0	50

ASTM D 2844, Cal Test 301



KLEINFELDER

Geotechnical, Materials and Environmental Engineering

Resistance Value Test Data

PLATE

PES ENVIRONMENTAL, INC.
Engineering & Environmental Services
Novato, California

PROJECT NUMBER 41-3744-01001 DATE JUL 1997

APPENDIX B

**LABORATORY ANALYTICAL REPORT
CHAIN-OF-CUSTODY RECORD**

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

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RECEIVED AUG - 7 1997

PES ENVIRONMENTAL, INC.
1682 NOVATO BLVD. STE. 100
NOVATO, CA 94947

REPORT DATE: 08/06/97

DATE(S) SAMPLED: 07/21/97

DATE RECEIVED: 07/21/97

ATTN: BILL FRIZZEL
CLIENT PROJ. ID: 4860103010
CLIENT PROJ. NAME: LRTC

AEN WORK ORDER: 9707281

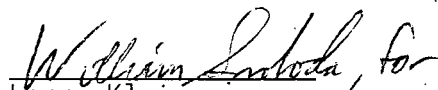
PROJECT SUMMARY:

On July 21, 1997, this laboratory received 8 soil sample(s).

Client requested sample(s) be analyzed for chemical parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.


Larry Klein
Laboratory Director

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-1
 AEN LAB NO: 9707281-01
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	ND	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-2
 AEN LAB NO: 9707281-02
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	960 *	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-3
 AEN LAB NO: 9707281-03
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	600 *	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-4
 AEN LAB NO: 9707281-04
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	ND	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-5
 AEN LAB NO: 9707281-05
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn. Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	ND	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES. ENVIRONMENTAL, INC.

SAMPLE ID: AS-6
 AEN LAB NO: 9707281-06
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	ND	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-7
 AEN LAB NO: 9707281-07
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	ND	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

PES ENVIRONMENTAL, INC.

SAMPLE ID: AS-8
 AEN LAB NO: 9707281-08
 AEN WORK ORDER: 9707281
 CLIENT PROJ. ID: 4860103010

DATE SAMPLED: 07/21/97
 DATE RECEIVED: 07/21/97
 REPORT DATE: 08/06/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for Pest/PCBs	EPA 3550	-		Extrn Date	07/24/97
Pesticides EPA 8080	EPA 8080				
Aldrin	309-00-2	ND	300	ug/kg	08/02/97
alpha-BHC	319-84-6	ND	300	ug/kg	08/02/97
beta-BHC	319-85-7	ND	300	ug/kg	08/02/97
delta-BHC	319-86-8	ND	300	ug/kg	08/02/97
gamma-BHC (Lindane)	58-89-9	ND	300	ug/kg	08/02/97
Chlordane	57-74-9	ND	3000	ug/kg	08/02/97
4,4'-DDD	72-54-8	ND	600	ug/kg	08/02/97
2,4'-DDD	53-19-0	ND	600	ug/kg	08/02/97
4,4'-DDE	72-55-9	ND	600	ug/kg	08/02/97
2,4'-DDE	3424-82-6	ND	600	ug/kg	08/02/97
4,4'-DDT	50-29-3	ND	600	ug/kg	08/02/97
2,4'-DDT	789-02-6	ND	600	ug/kg	08/02/97
Dieldrin	60-57-1	ND	600	ug/kg	08/02/97
Endosulfan I	959-98-8	ND	300	ug/kg	08/02/97
Endosulfan II	33212-65-9	ND	600	ug/kg	08/02/97
Endosulfan Sulfate	1031-07-8	ND	600	ug/kg	08/02/97
Endrin	72-20-8	ND	600	ug/kg	08/02/97
Endrin Aldehyde	7421-93-4	ND	600	ug/kg	08/02/97
Heptachlor	76-44-8	ND	300	ug/kg	08/02/97
Heptachlor Epoxide	1024-57-3	ND	300	ug/kg	08/02/97
Methoxychlor	72-43-5	ND	600	ug/kg	08/02/97
Toxaphene	8001-35-2	ND	3000	ug/kg	08/02/97

Reporting limits elevated due to high levels of non-target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
 * = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9707281
CLIENT PROJECT ID: 4860103010

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spikes(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analyses.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behaviour, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrument performance.

D: Surrogates diluted out.

I: Interference.

!: Indicates result outside of established laboratory QC limits.

WORK ORDER: 9707281

QUALITY CONTROL REPORT

PAGE QR-2

ANALYSIS: Pesticides & PCBs

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD:

LAB ID: BLNK-0724-1
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/5/
 BATCH ID: PSTS072497-1
 DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
							LOW	HIGH		
DCB	(surr)	80.8			100	80.8	46	110		
TCMX	(surr)	79.8			100	79.8	72	119		
gamma-BHC (Lindane)		ND		5						
Heptachlor		ND		5						
Aldrin		ND		5						
Dieldrin		ND		10						
Endrin		ND		10						
4,4'-DDT		ND		10						
alpha-BHC		ND		5						
beta-BHC		ND		5						
delta-BHC		ND		5						
Chlordane		ND		50						
4,4'-DDD		ND		10						
2,4'-DDD		ND		10						
4,4'-DDE		ND		10						
2,4'-DDE		ND		10						
2,4'-DDT		ND		10						
Endosulfan I		ND		5						
Endosulfan II		ND		10						
Endosulfan Sulfate		ND		10						
Endrin Aldehyde		ND		10						
Heptachlor Epoxide		ND		5						
Methoxychlor		ND		10						
Toxaphene		ND		50						
Aroclor 1016		ND		50						
Aroclor 1221		ND		50						
Aroclor 1232		ND		50						
Aroclor 1242		ND		50						
Aroclor 1248		ND		50						
Aroclor 1254		ND		50						
Aroclor 1260		ND		50						

METHOD SPIKE SAMPLES

SAMPLE TYPE: Laboratory Control Spike
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD:

LAB ID: LCSS-0724-1
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/6/5
 BATCH ID: PSTS072497-1
 DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
							LOW	HIGH		
DCB	(surr)	79.9	80.8		100	79.9	46	110		
TCMX	(surr)	78.6	79.8		100	78.6	72	119		
gamma-BHC (Lindane)		12.5	ND	5	16.7	74.9	74	114		
Heptachlor		13.3	ND	5	16.7	79.6	74	115		
Aldrin		12.8	ND	5	16.7	76.6	71	112		
Dieldrin		25.6	ND	10	33.3	76.9	75	114		
Endrin		28.9	ND	10	33.3	86.8	75	114		
4,4'-DDT		27.0	ND	10	33.3	81.1	75	115		

WORK ORDER: 9707281

QUALITY CONTROL REPORT

PAGE QR-3

ANALYSIS: Pesticides EPA 8080

MATRIX: Soil/Bulk

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-01A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/17/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-02A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/18/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-03A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/19/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-04A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/20/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-05A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/21/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-06A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/22/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

SAMPLE TYPE: Sample-Client
 INSTRUMENT: HP GC FOR 8080
 UNITS: ug/kg
 METHOD: EPA 8080

LAB ID: 9707281-07A
 PREPARED: 07/24/97
 ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/23/
 BATCH ID: PST072497-1
 DILUTION: 100.0000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
						LOW	HIGH		
DCB (surr)	D			100	0 !	46	110		
TCMX (surr)	D			100	0 !	72	119		

WORK ORDER: 9707281

QUALITY CONTROL REPORT

PAGE QR-4

ANALYSIS: Pesticides EPA 8080

MATRIX: Soil/Bulk

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP GC FOR 8080
UNITS: ug/kg
METHOD: EPA 8080

LAB ID: 9707281-08A
PREPARED: 07/24/97
ANALYZED: 07/26/97

INSTR RUN: GC BTS\970725000000/24/
BATCH ID: PSTS072497-1
DILUTION: 100.0000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%)		RPD (%)	RPD LIMIT (%)
							LOW	HIGH		
DCB	(surr)	D			100	0 !	46	110		
TCMX	(surr)	D			100	0 !	72	119		

----- End of Quality Control Report -----



1682 NOVATO BOULEVARD, SUITE 100
NOVATO, CALIFORNIA 94947
(415) 899-1600 FAX (415) 899-1601

JOB NUMBER: 486 0103 010

NAME / LOCATION: LRTC

PROJECT MANAGER: BILL FRIZZELL

SAMPLERS:

DJS

9707281

[illegible][illegible]

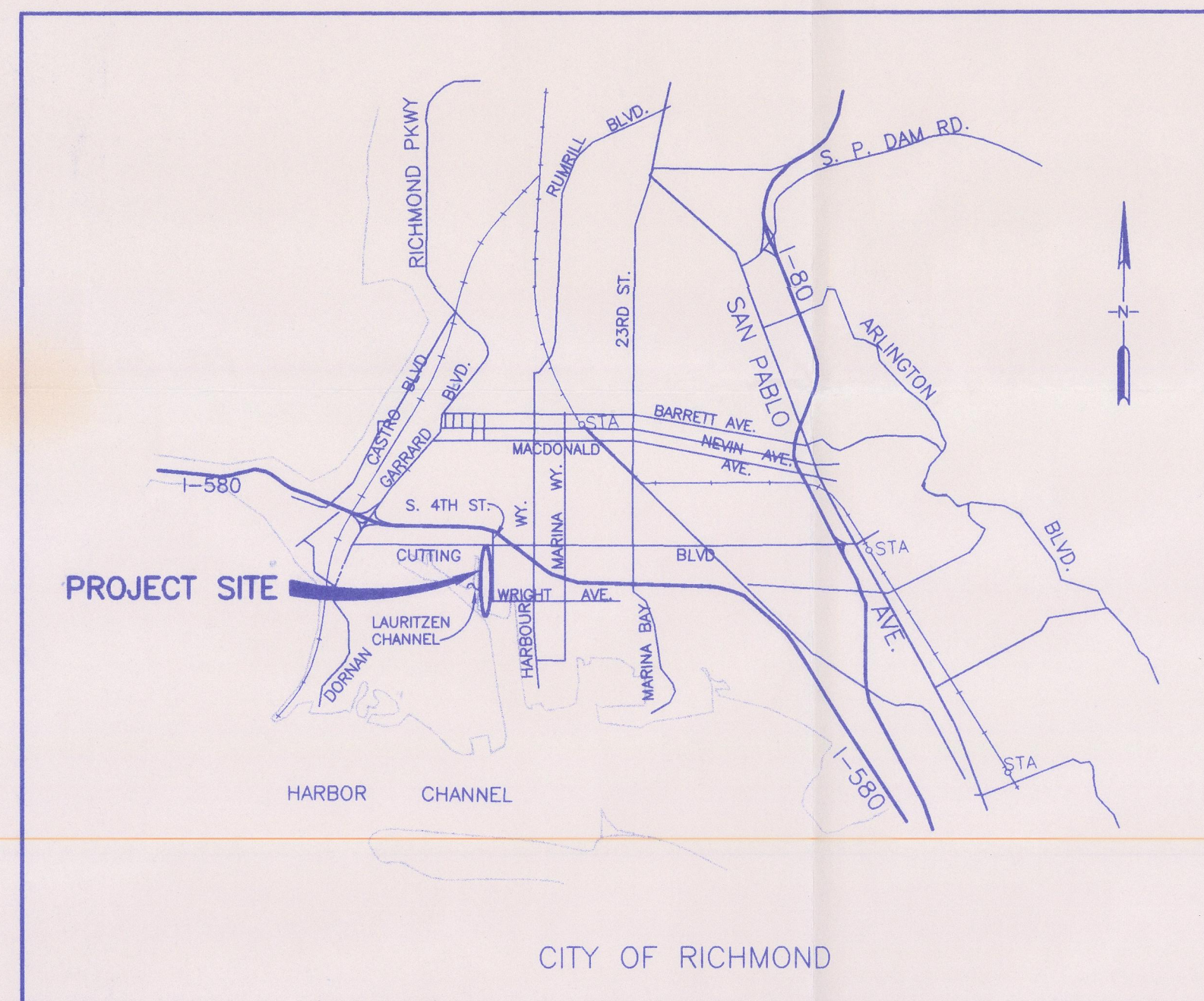
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EPA 602 / 8020 (BTEX)					
EPA 624 / 8240					
EPA 625 / 8270					
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TPHd by 3550 / 8015 (mod)	X				
8080 PESTICIDES ONLY					

NOTE		CHAIN OF CUSTODY RECORD					
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		S. L.		J. R			

APPENDIX C

SITE PLANS










LEVIN RICHMOND TERMINAL CORPORATION
UNITED HECKATHORN SITE
UPLANDS CAPPING



LIST OF DRAWINGS

SHEET NO	DWG NO	DWG TITLE
1	T-1	TITLE SHEET
2	C-1	PLAN STA 9+30 TO 16+75
3	C-2	PLAN STA 16+75 TO 24+00
4	C-3	DETAILS AND SECTIONS
5	C-4	SECTIONS

LEGEND

	CENTERLINE
	PER CENT
	STANDARD CITY MONUMENT
	TEMPORARY TRAFFIC SIGN
	WORK POINT
	POWER POLE
	DRAINAGE INLET
	SDMH STORM DRAIN MANHOLE
	R/R TRACK TO BE REMOVED

LOCATION MAP

SCALE: 1"=5 MILE

ABBREVIATIONS

AC	ASPHALT CONCRETE	LF	LINEAR FEET	SS	SANITARY SEWER
BM	BENCH MARK	LT	LEFT	STA	STATION
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION	LP	LIGHT POLE	STD	STANDARD
		MAX	MAXIMUM	T	TELEPHONE
CONC	CONCRETE	N	NORTH	TC	TOP OF CURB
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	TS	TOP OF SLOPE
DI	DRAINAGE INLET	OG	ORIGINAL GROUND	TYP	TYPICAL
DWG	DRAWING	PCC	PORTLAND CEMENT CONCRETE	TW	TOP OF WALL
E	EAST OR ELECTRICAL LINE	PG	PROFILE GRADE	VAR	VARIES
		PL	PROPERTY LINES	U/G T&E	UNDERGROUND TELEPHONE & ELECTRIC
EL	ELEVATION	PT	POINT	USC&GS	UNITED STATES COAST & GEODETIC SURVEY
EXIST	EXISTING	R	RADIUS		
FG	FINISH GRADE	RCP	REINFORCED CONCRETE PIPE		
FL	FLOW LINE	RD	ROAD	VERT	VERTICAL
FT	FEET	RR	RAIL ROAD	W	WEST OR WATER LINE
		RT	RIGHT	W/	WITH
GB	GRADE BREAK	R/W	RIGHT-OF-WAY	WM	WATER METER
GP	GATE POST			WS	WATER SURFACE
		S	SLOPE OR SLOTH		
HORIZ	HORIZONTAL	SD	STORM DRAIN		
INV	INVERT	SDMH	STORM DRAIN MANHOLE		
		SHT	SHEET		
JP	JOINT POLE	SN	SIGN		
JB	JUNCTION BOX	SQ	SQUARE		

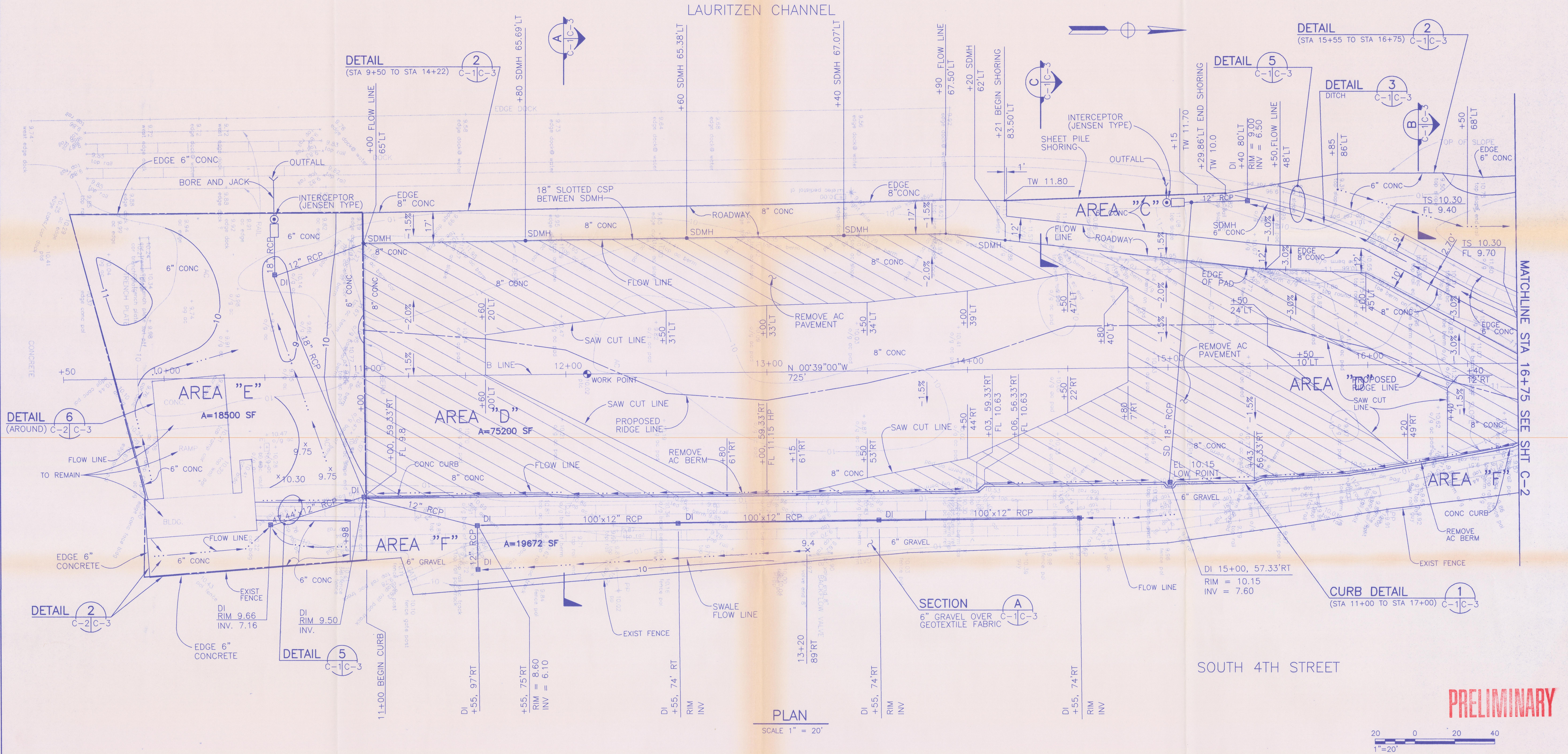
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PRELIMINARY

OCT 17 1997

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									T-1
Rev.	Date	Description	Bv						

FILE NAME: C:\PROJECTS\5579\5579001
PLOTTED: 09/25/97
15:21:00



Rev.	Date	Description	By

PLAN
STA 9+50 TO STA 16+75

AN WEST INC.
Consulting Engineers
4123 Lakeside Drive
Richmond, California 94806-1942

Designed By: FRB	Scale: 1"=20'
Drawn By: DDE	Project No: 5579-01
Checked By: RSB	Date: 09/24/97

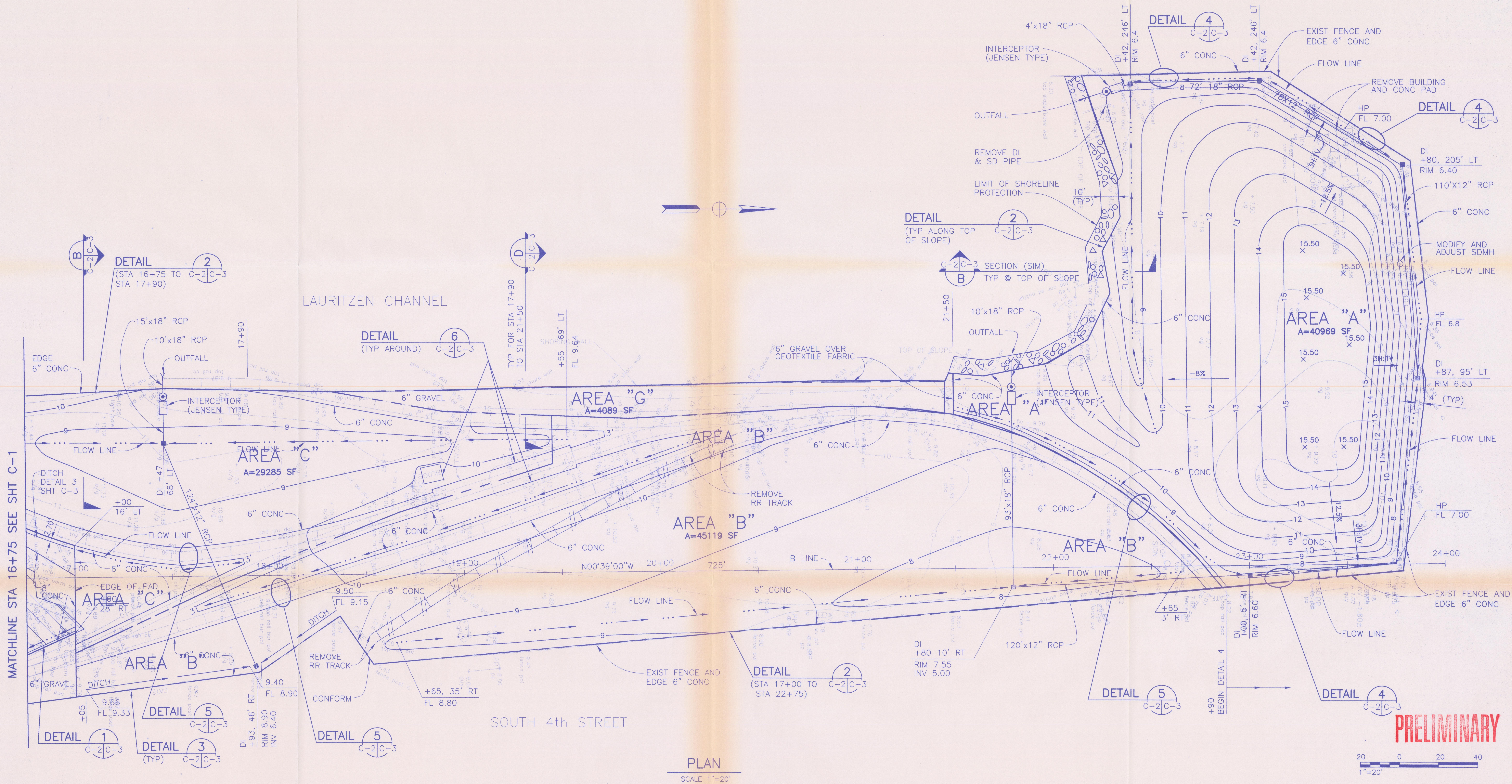
LEVIN RICHMOND TERMINAL CORPORATION
UNITED HECKATHORN SITE
UPLANDS CAPPING

Dwg No:

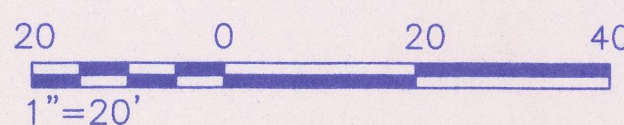
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OCT 17 1997

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PLOTED: 9/26/97 16.05
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PRELIMINARY



OCT 17 1997

Rev.	Date	Description	By

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STA 16+75 TO STA 24+00

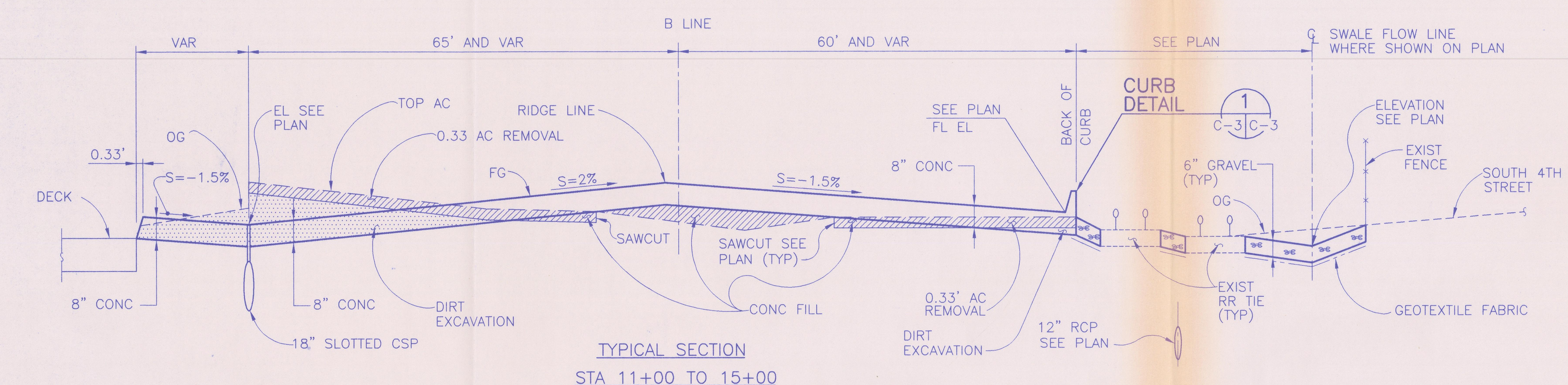
ANWEST inc.
Consulting Engineers
4123 Lakeside Drive
Richmond, California 94806-1942

Designed By: FRB	Scale: 1"=20'
Drawn By: MN/AJV	Project No: 5579-01
Checked By: RSB	Date: 09/26/97

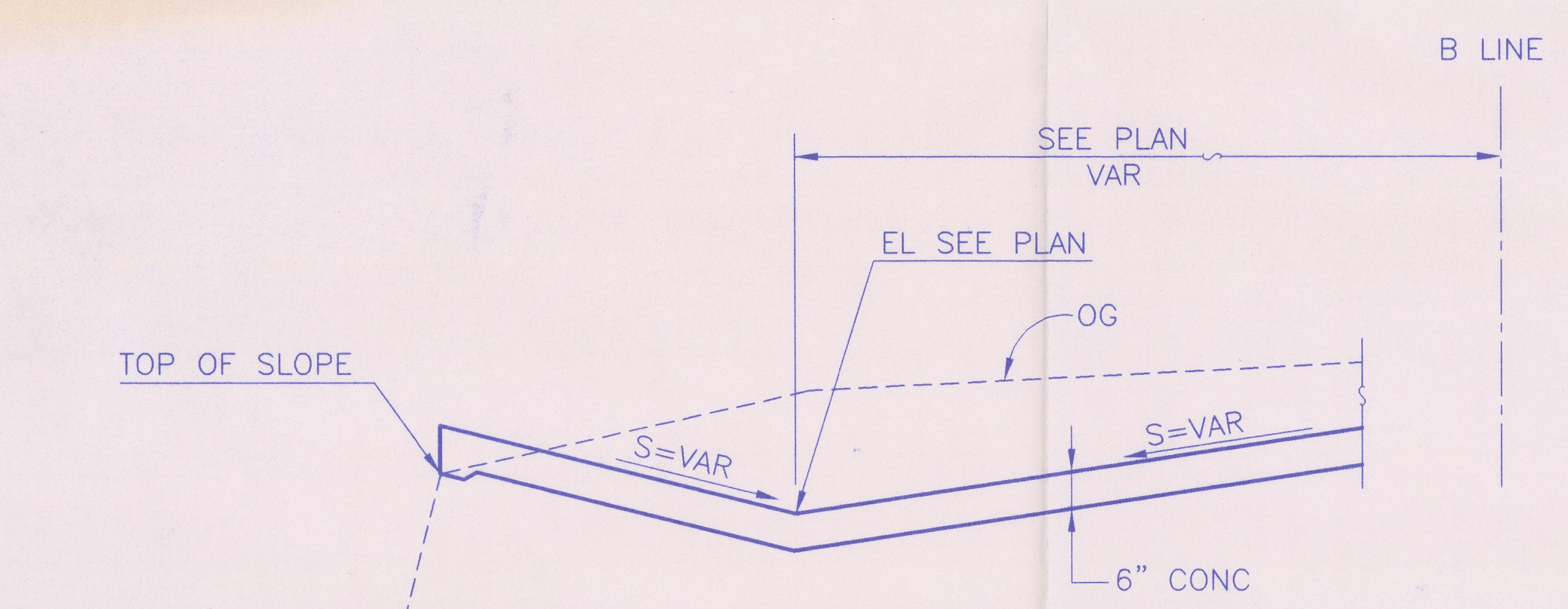
LEVIN RICHMOND TERMINAL CORPORATION
UNITED HECKATHORN SITE
UPLANDS CAPPING

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C-2

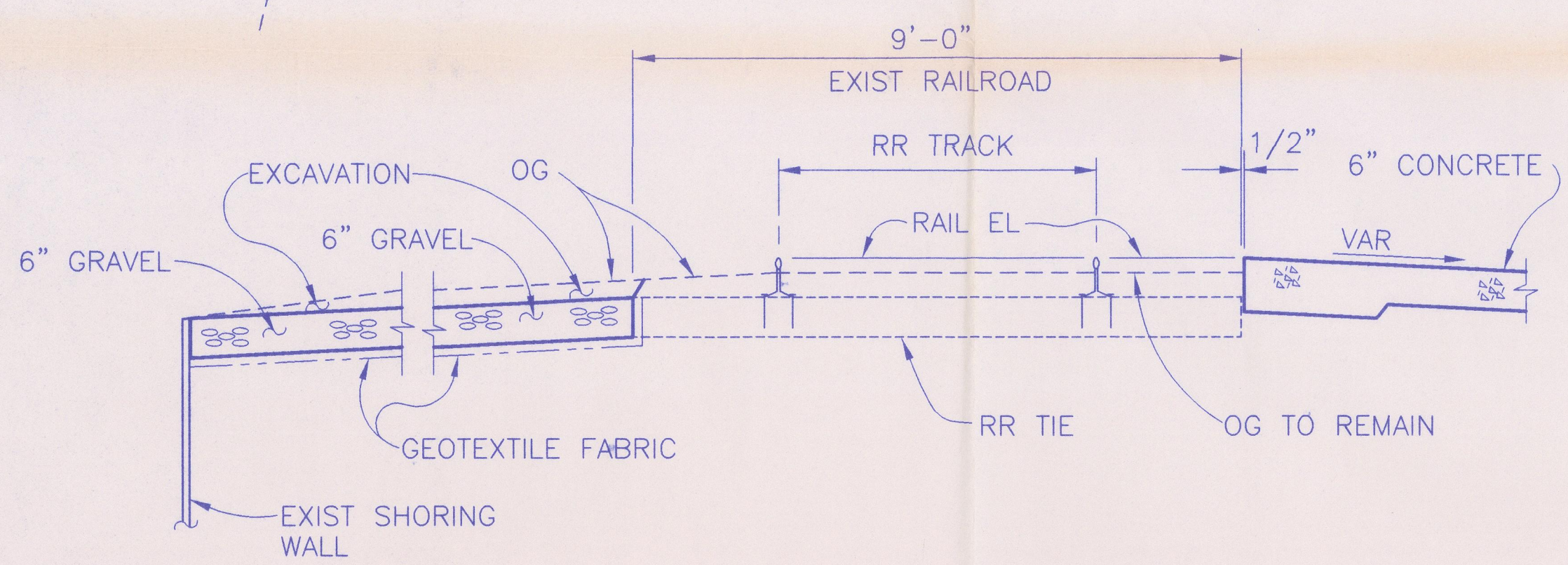
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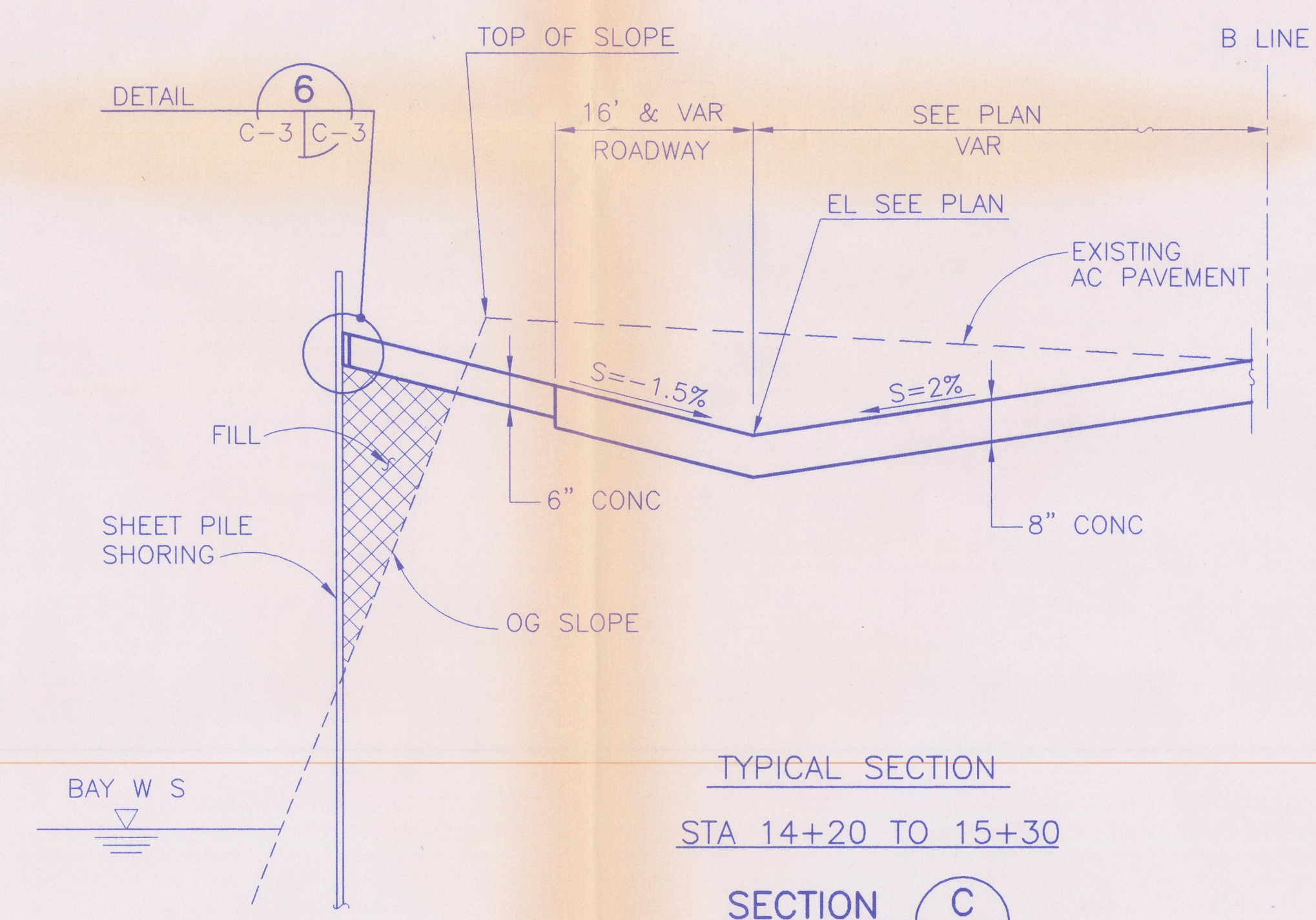
TYPICAL SECTION
STA 11+00 TO 15+00
SECTION A
HORIZ 1"=10'
VERT 1"=2'
C-1 | C-3



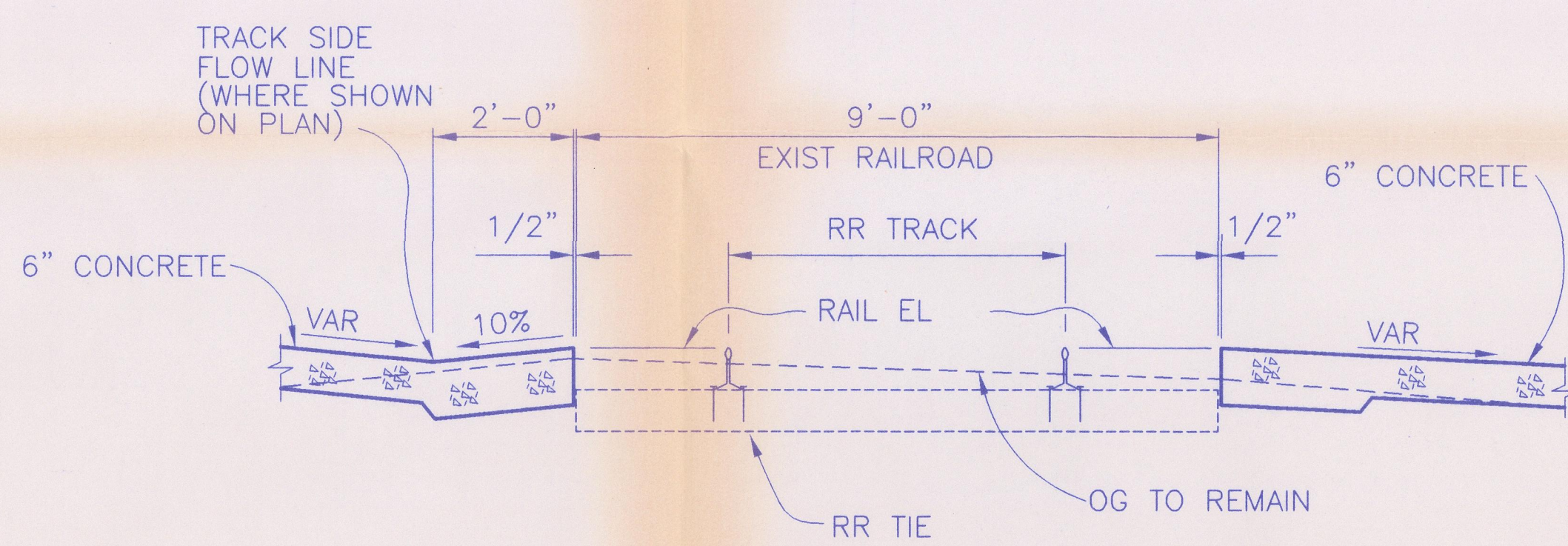
TYPICAL SECTION
STA 15+80 TO 18+35
SECTION B
NO SCALE
C-1 | C-3
C-2



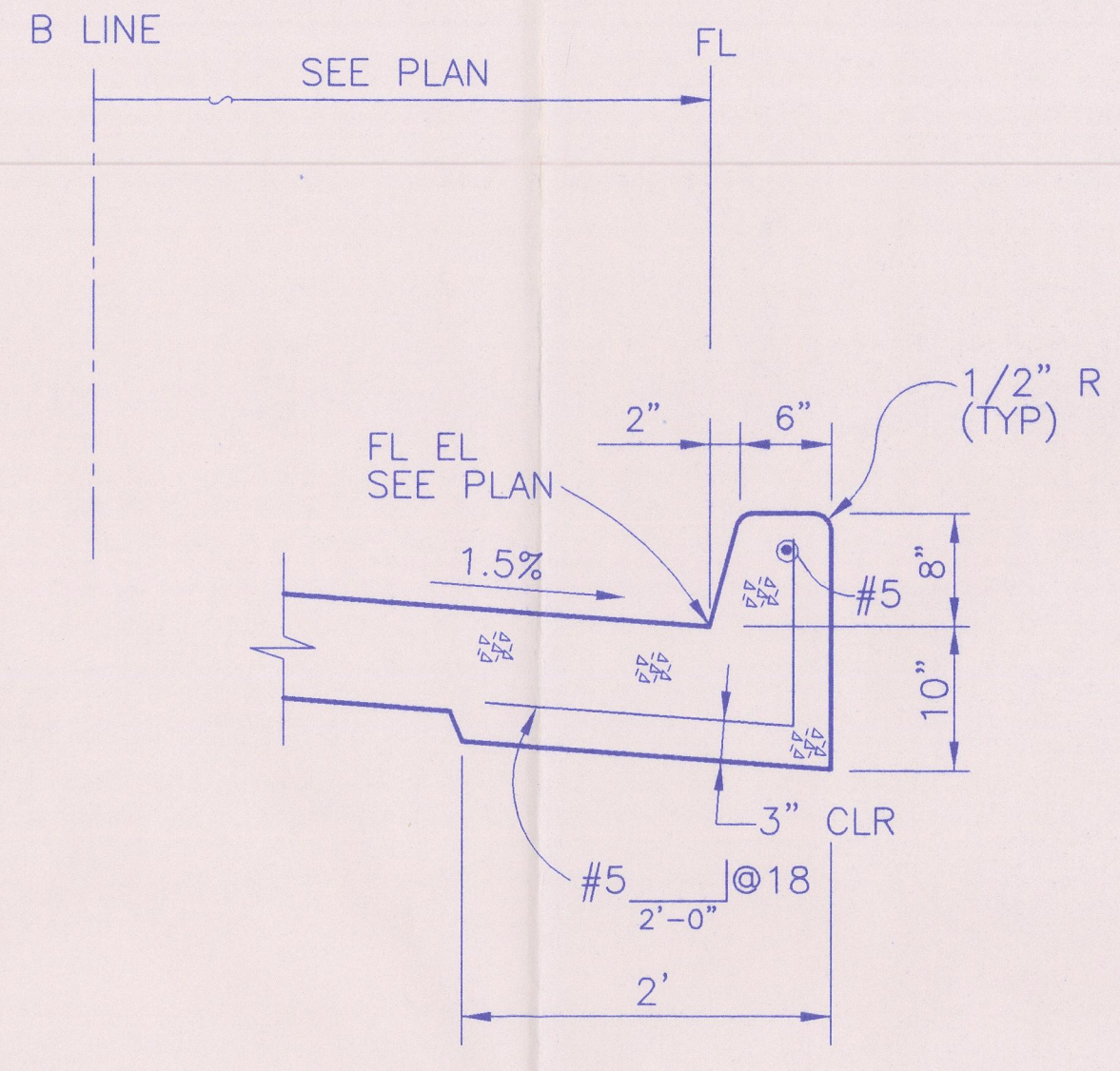
SECTION D
1"=2'
C-2 | C-3



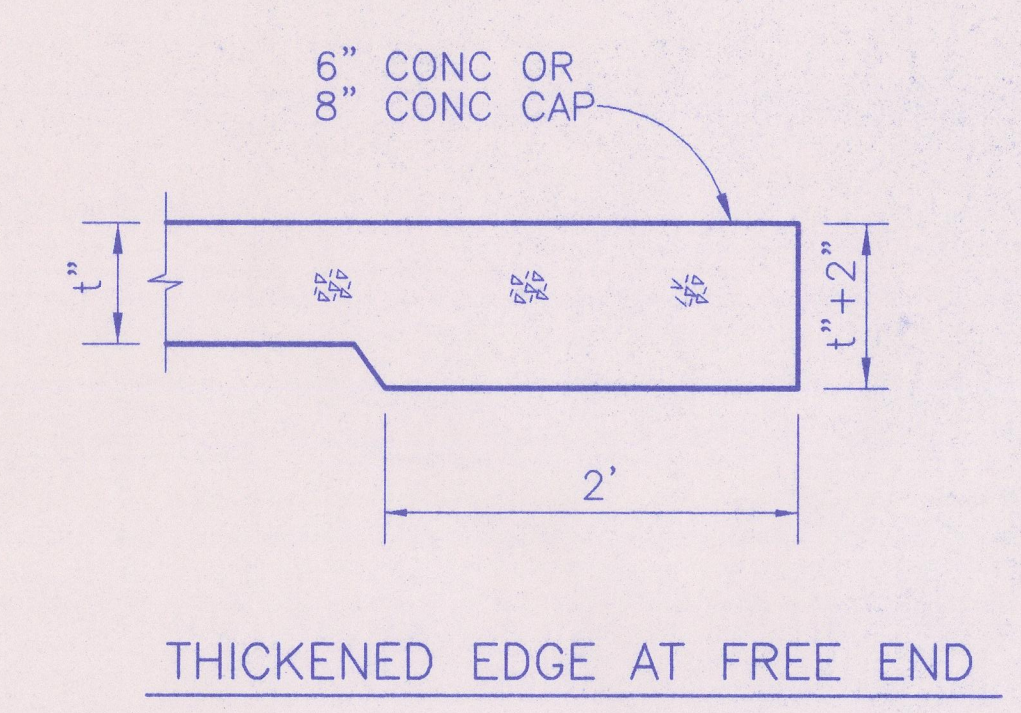
TYPICAL SECTION
STA 14+20 TO 15+30
SECTION C
NO SCALE
C-1 | C-3



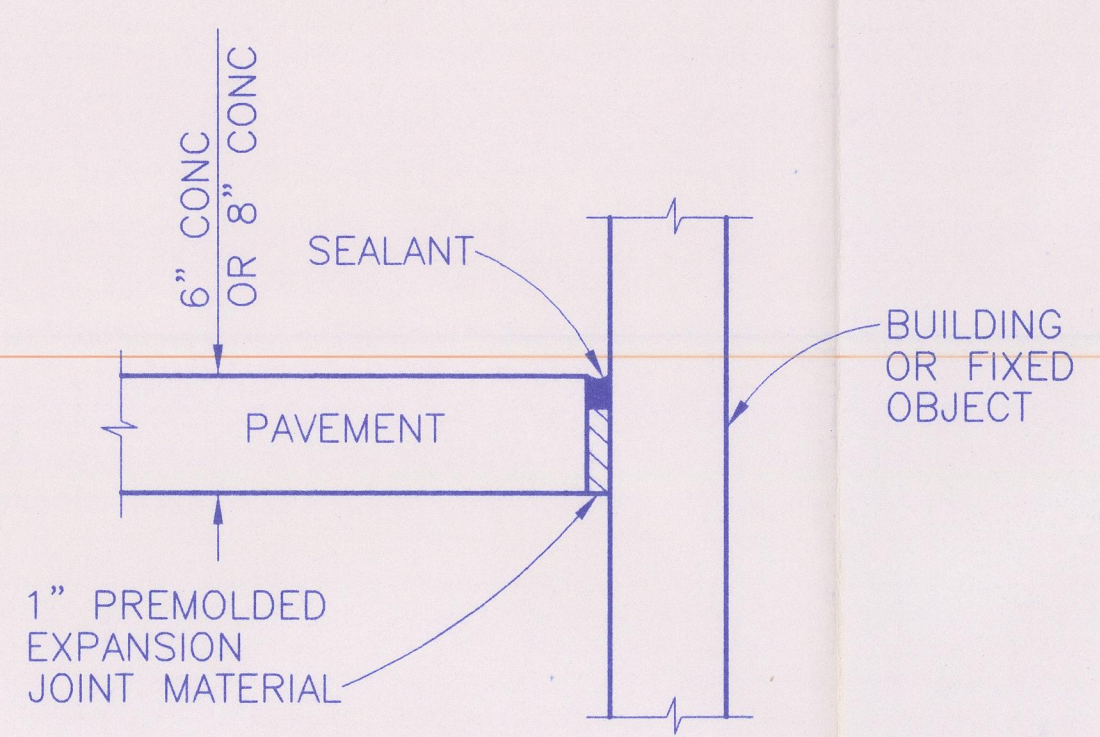
CONCRETE EACH SIDE OF
RR TRACK/TRACKS
DETAIL 5
1"=2'
C-1 | C-3
C-2
C-4



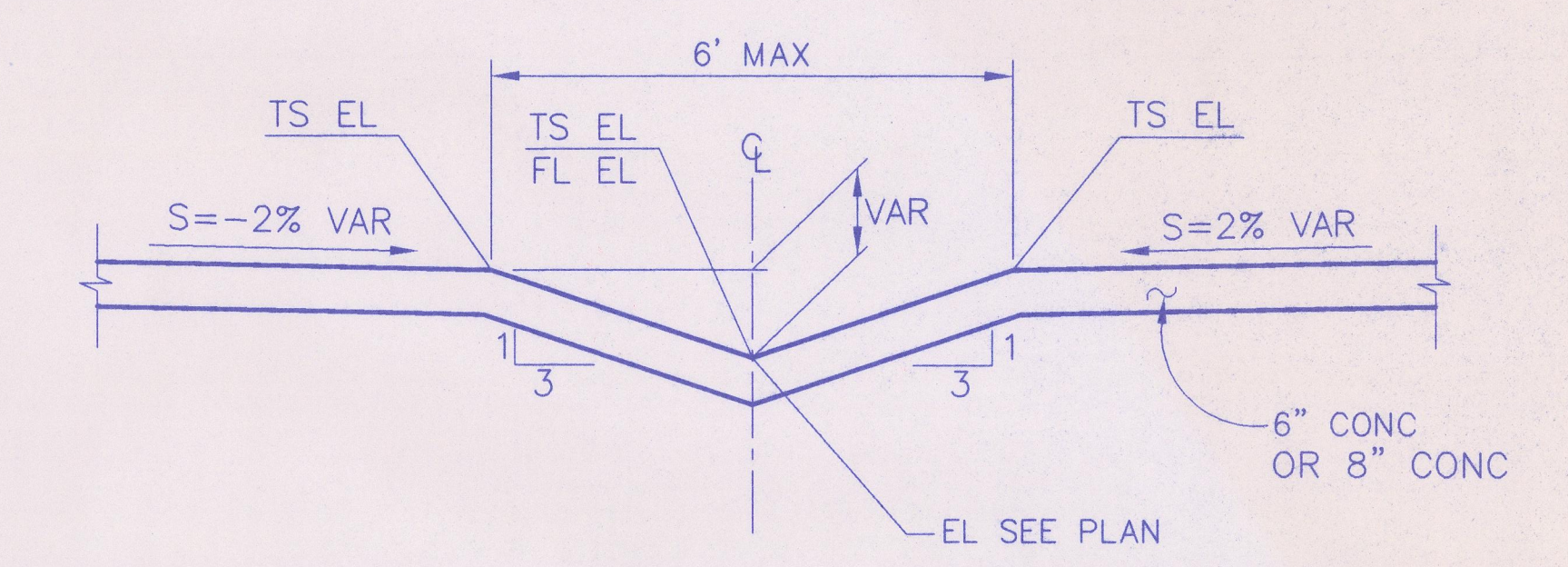
CURB DETAIL 1
NO SCALE
C-1 | C-3
C-3



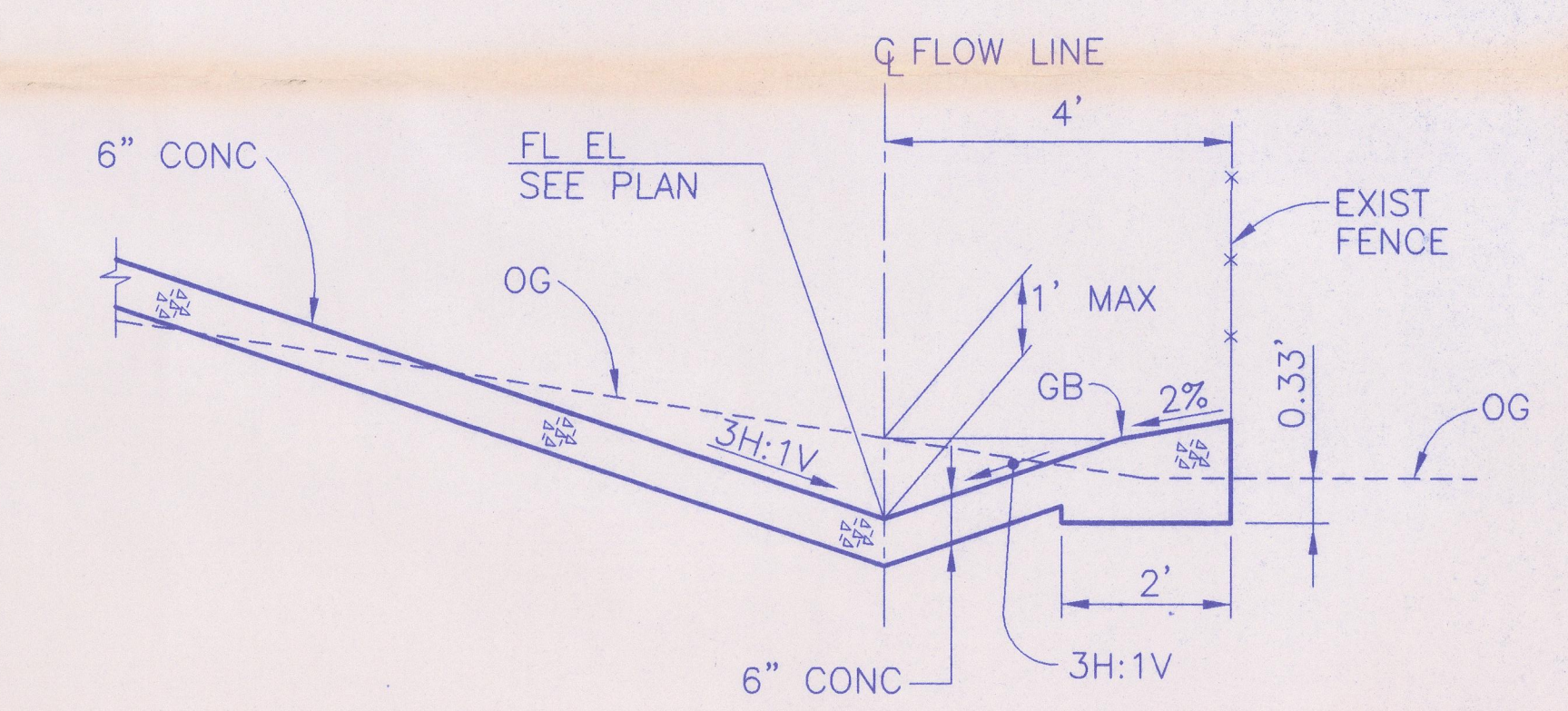
DETAIL 2
NO SCALE
C-1 | C-3
C-2



DETAIL 6
NO SCALE
C-1 | C-3
C-2
C-3



SHALLOW DITCH DETAIL 3
1"=2'
C-2 | C-3



DETAIL 4
1"=2'
C-2 | C-3

PRELIMINARY

OCT 17 1997

Rev.	Date	Description	By

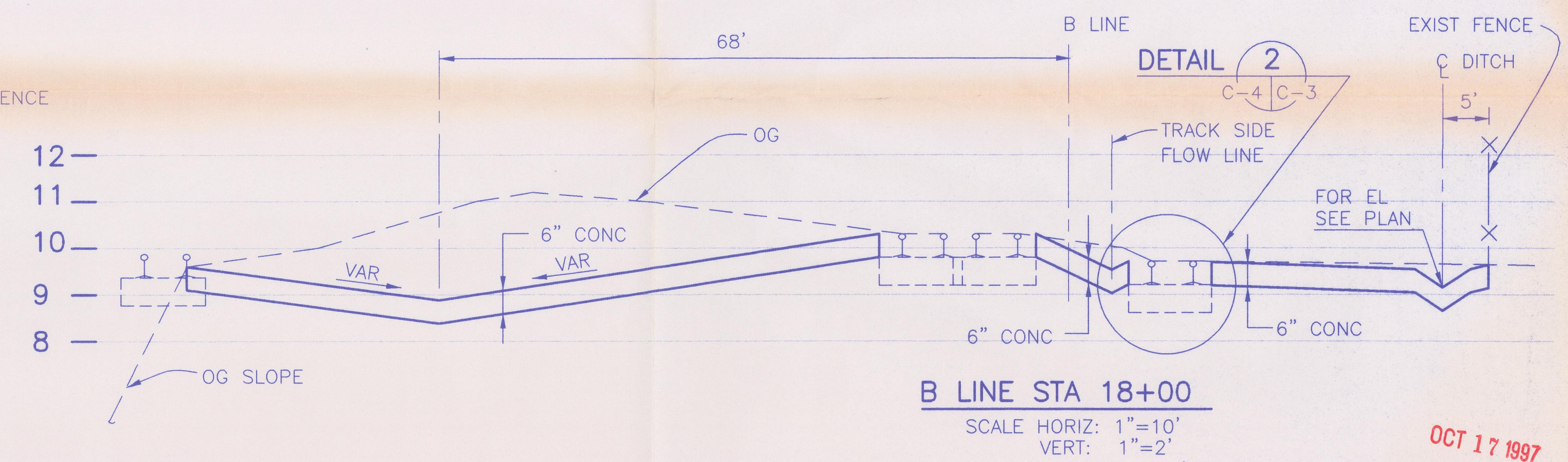
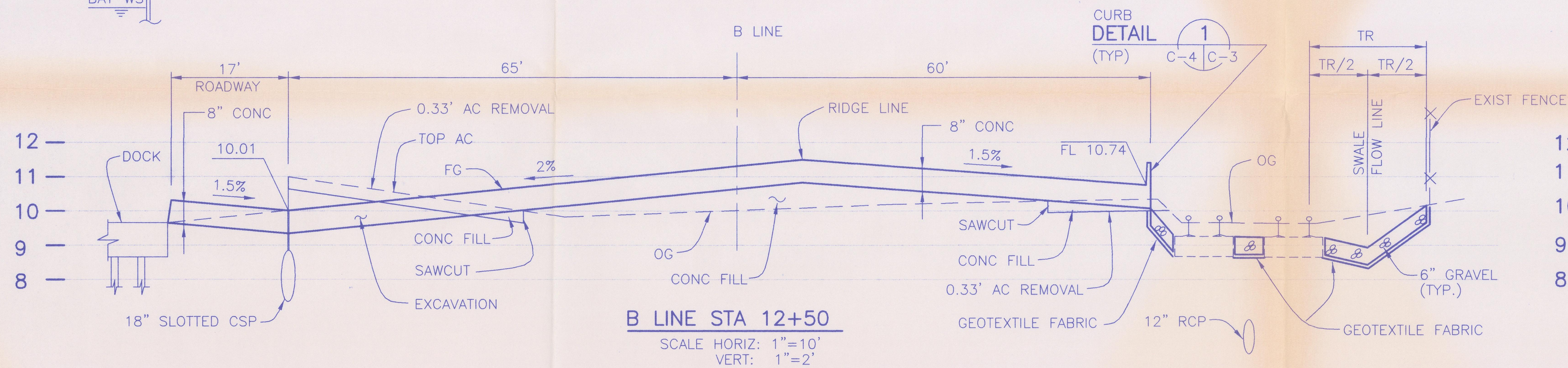
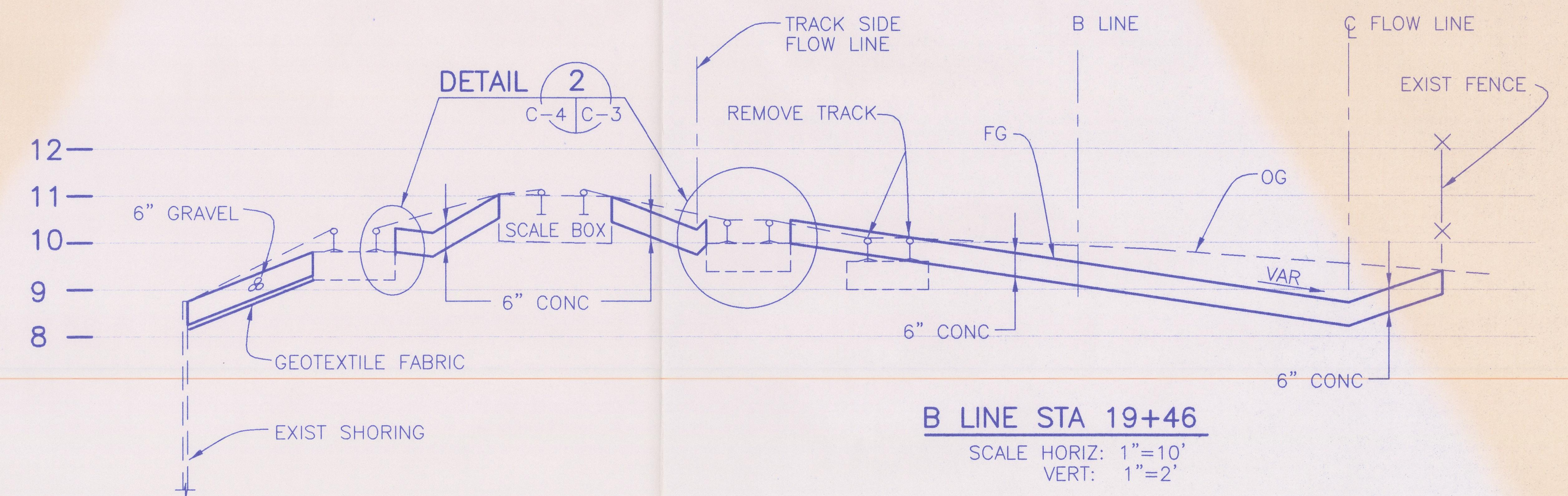
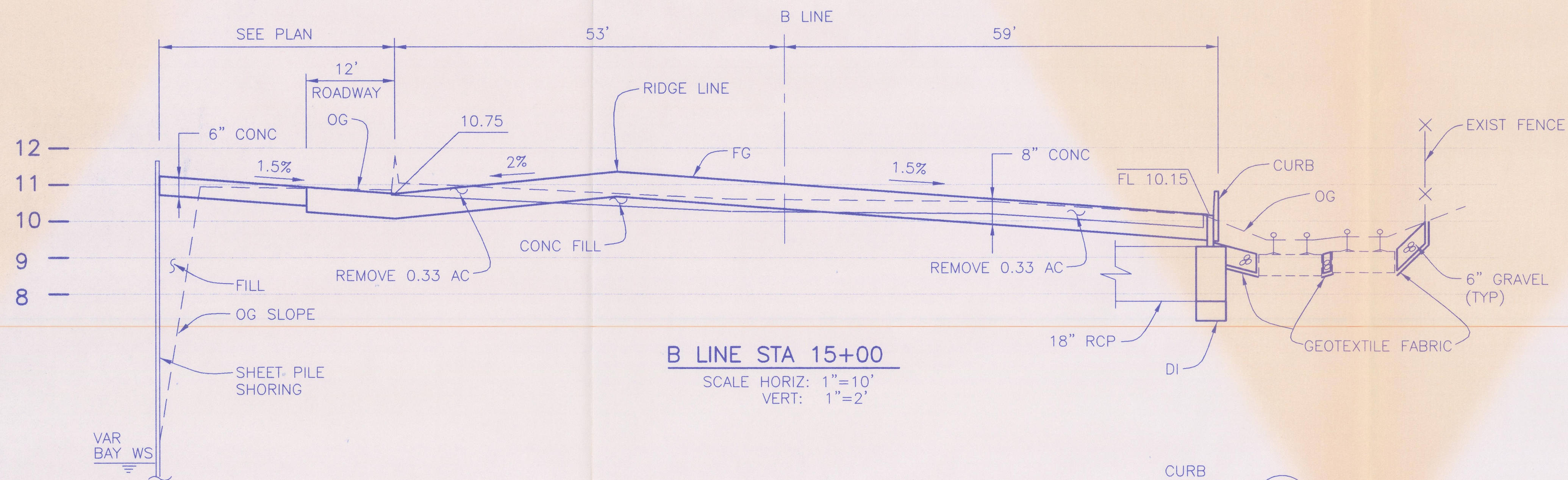
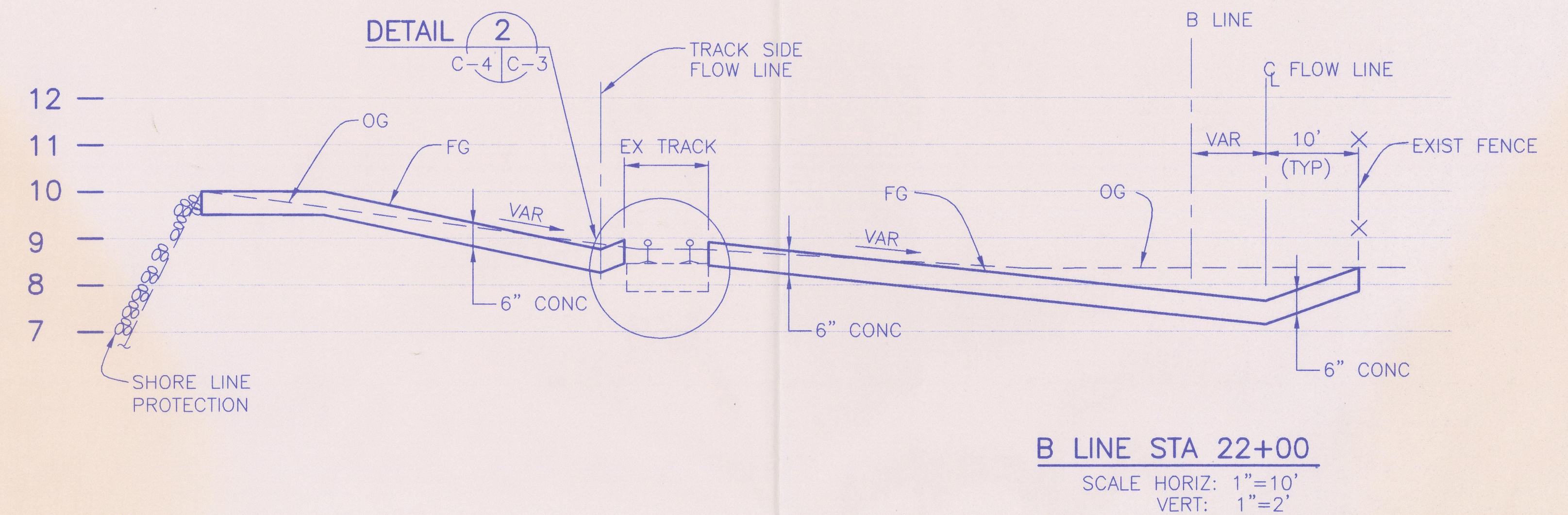
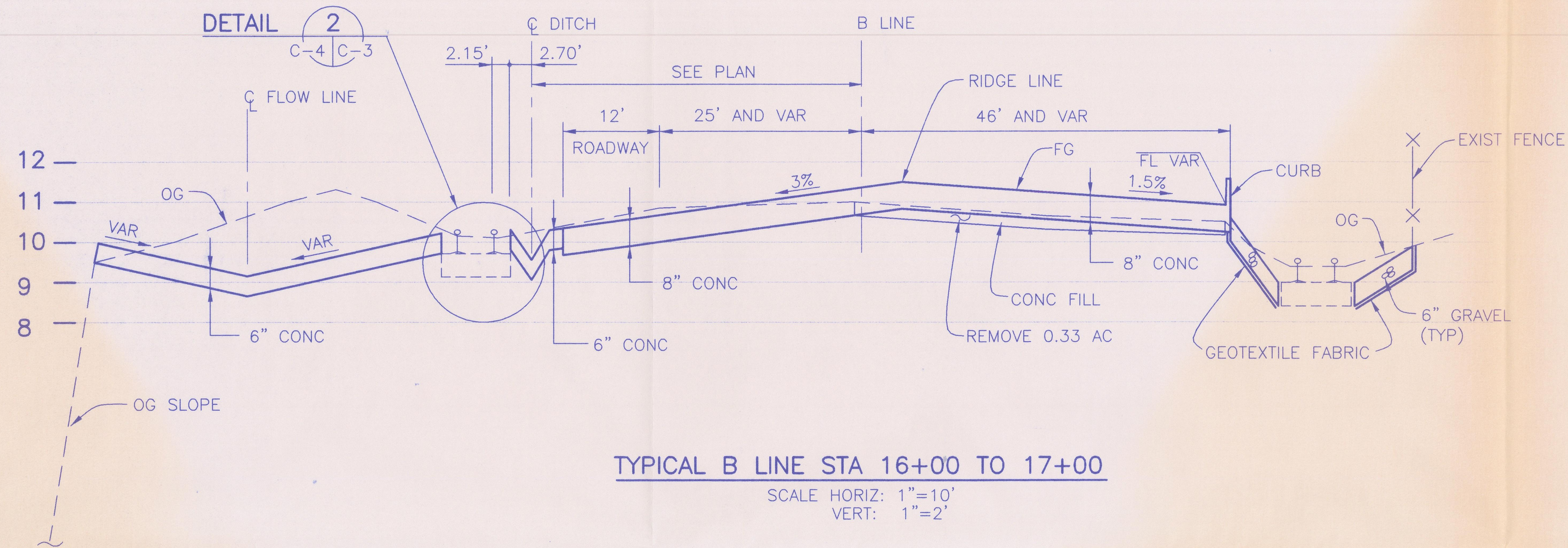
DETAILS AND SECTIONS

ANWEST INC.
Consulting Engineers
4123 Lakeside Drive
Richmond, California 94806-1942

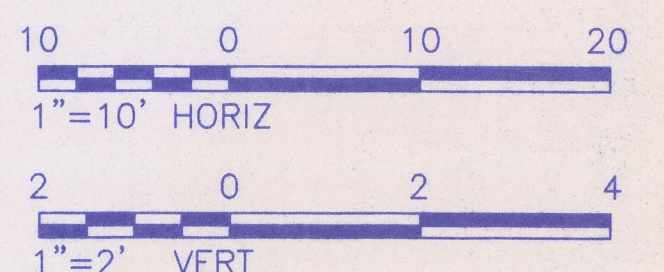
Designed By: FRB
Scale: AS SHOWN
Drawn By: T.F., JR.
Project No: 5579-01
Checked By: RSB
Date: 09/25/97

LEVIN RICHMOND TERMINAL CORPORATION
UNITED HECKATHORN SITE
UPLAND CAPPING

Dwg No:
C-3



PRELIMINARY



OCT 17 1997

Rev.	Date	Description	By

SECTIONS

ANWEST INC.
 Consulting Engineers

4123 Lakeside Drive
 Richmond, California 94806-1942

Designed By:	FRB	Scale:	AS SHOWN
Drawn By:	MN	Project No:	5579-01
Checked By:	FRB	Date:	09/26/97

LEVIN RICHMOND TERMINAL CORPORATION
 UNITED HECKATHORN SITE
 UPLANDS CAPPING

Dwg No:
C-4

APPENDIX D

DESIGN SPECIFICATIONS OUTLINE

**TECHNICAL SPECIFICATIONS LIST
for LRTC**

- 9 Description of Work
- 9-1 General

- 10 Construction Details
- 10-1 General
- 10-1.01 Order of Work
- 10-1.02 Cooperation & Scheduling Work
- 10-1.03 Mobilization
- 10-1.04 Dust Control

- 10-2 Existing Facilities
- 10-2.1 Demolish Building
- 10-2.2 Remove Drainage Facilities
- 10-2.3 Remove Asphalt Concrete
- 10-2.4 Remove Concrete

- 10-3 Earthwork
- 10-3.1 General
- 10-3.2 Yard excavation
- 10-3.3 Structure Excavation and Backfill
- 10-3.4 Trenching

- 10-4 Aggregate Base

- 10-5 Gravel

- 10-6 Asphalt Concrete Dike

- 10-7 Concrete Pavement
- 10-7.1 Reinforcement

- 10-8 Drainage Structures

- 10-9 Reinforced concrete Pipe

- 10-10 Slotted Corrugated Steel Pipe

- 10-11 Bore and Jack

- 10-12 Shore Slope Protection

- 10-13 Concrete Structures

- 10-14 Sheet Piling